

Attachment D
TDEC Water Quality Certification



**TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 CHURCH STREET
7th FLOOR L & C ANNEX
NASHVILLE, TENNESSEE 37243-1534**

December 10, 2008

Mr. Stephen J. King, P.E.
Director of Public Works
City of Knoxville
400 Main Street, Room 480
Knoxville, Tennessee 37921

Subject: §401 Water Quality Certification
 State of Tennessee Application NRS 08.208

Dear Mr. King:

We have reviewed your application for the proposed First Creek flood mitigation and improvements project along North Broadway (SR-33), from Chickamauga Avenue to 132 feet north of Emoriland Boulevard. These alterations include construction of a 40-ft. wide high-flow bench in First Creek, replacement of an existing bridge structure at Fairmont Boulevard and North Broadway (SR-33), and construction of a new crossing at Emoriland Boulevard. Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the State of Tennessee is required to certify whether the activity described below will violate applicable water quality standards.

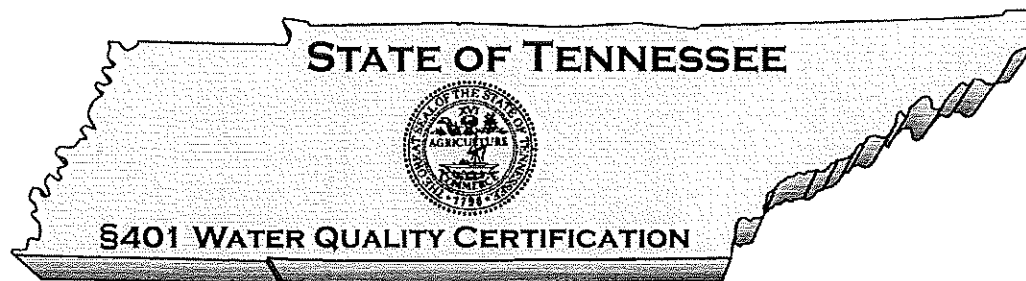
Subject to conformance with accepted plans, specifications and other information submitted in support of the referenced application, the State of Tennessee hereby issues certification for the proposed activity (enclosed). Failure to comply with the terms of this permit or other violations of the Tennessee Water Control Act of 1977 is subject to penalty in accordance with T.C.A. §69-3-115.

It is the responsibility of the permittee to ensure that all contractors involved with this project have read and understood the permit conditions before the project begins. If you need any additional information of clarification, please contact Chip Hannah at 615-532-0713, or by e-mail at hugh.hannah@state.tn.us.

Sincerely,

Chip Hannah
Natural Resources Section

Cc: WPC-EFOK-Baxter Wilson
 U.S. Army Corps of Engineers-Lenoir City Office
 Tom Welborn-U.S. Environmental Protection Agency, Atlanta, GA
 Lee Barclay-U.S. Fish and Wildlife Service, Cookeville, TN
 Rob Todd-Tenn. Wildlife Resources Agency, Nashville, TN
 John Kenst-Project Manager-Vaughn & Melton, Inc.-1909 Ailor Avenue, Knoxville, TN 37921
 File copy



NRS 08.208

Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the State of Tennessee is required to certify whether the activity described below will violate applicable water quality standards. Accordingly, the Division of Water Pollution Control requires reasonable assurance that the activity will not violate provisions of The Tennessee Water Quality Control Act of 1977 (T.C.A. §69-3-101 et seq.) or of §§301, 302, 303, 306 or 307 of The Clean Water Act.

Subject to conformance with accepted plans, specifications and other information submitted in support of application NRS 08.208, the State of Tennessee hereby certifies the activity described under authorized work below pursuant to 33 U.S.C. 1341. This shall serve as authorization pursuant to T.C.A. §69-3-101 et seq.

PERMITTEE: City of Knoxville

AUTHORIZED WORK: The authorized work includes the restoration of the floodplain of First Creek by constructing a 40-foot wide high-flow bench for approximately 1900 linear feet of First Creek along North Broadway (SR-33), from Chickamauga Avenue to 132 feet north of Emoriland Boulevard. Also authorized is the replacement of the existing bridge structure along North Broadway (SR-33) at Fairmont Boulevard, and construction of a new bridge structure at Emoriland Boulevard.

LOCATION : The proposed alterations are located in the City of Knoxville, along First Creek from Chickamauga Avenue to 132 feet north of Emoriland Boulevard, in Knox County (Lat: 35.816667°, Long: -83.933333°).

EFFECTIVE DATE: December 12, 2008

EXPIRATION DATE: December 11, 2013

SPECIAL CONDITIONS:

1. NRS 08.208, Station 9+87.72 to Station 28+90.96, North Broadway (SR-33), construction of 40 ft. wide high-flow bench for approximately 1,900 linear feet of First Creek from North Broadway at Chickamauga Avenue to 132 feet north of Emoriland Boulevard, First Creek, Lat: 36.00275°, Long: -83.924383°: The authorized alterations include excavation and construction activities associated with the

construction of the high-flow bench in First Creek, along North Broadway (SR-33), from Chickamauga Avenue to 132 feet north of Emoriland Boulevard.

- a. The high-flow bench is to be located along the right descending bank at the downstream portion of the project (near Broadway at Chickamauga Avenue), and transitions to the left descending bank at the upstream portion of the project (132 feet north of Emoriland Boulevard). The high-flow bench is to be located on both sides of First Creek at the transition, and will bypass the existing oxbow.
- b. To minimize potential stream impacts, work shall be limited to one 300-ft. section at a time. Each 300-ft. section shall be permanently stabilized prior to proceeding to the next section.
- c. Channel work and construction activities should begin at the downstream portion of the project and proceed upstream throughout the project.
- d. Permanent vegetation is to be established after construction of the high-flow bench and shall be selected, implemented and/or established according to Sheets L2-L5 of the subject plans. Vegetation plantings shall be completed before the end of the project, or no later than May 31, 2010.
- e. A buffer zone shall be provided, which will encompass the existing drainage easement for the project.
- f. Perpetual protection for the buffer zone, area encompassed by the drainage easement, shall be provided through the strict execution and adherence of the existing drainage easement. For new development, a 50-ft. buffer shall be maintained from the low flow centerline of the stream or to the floodway limit, whichever is greater.
- g. Posted notification and establishment of protected physical boundaries shall be provided for the buffer zone/drainage easement area. This notification and establishment of boundaries is to notify the public that the area is a protected area and should not be disturbed. Photo-documentation of completion of this requirement shall be submitted to the permit coordinator at the division's Natural Resources Section, located in Nashville, upon completion of the project, or no later than May 31, 2010.

MONITORING:

- The permittee shall monitor, for a period of three years, the vegetation plantings established during the project. This includes all vegetative plantings, and the permittee must ensure a minimum survivability rate of 75%. In the event a 75% survivability rate is not achieved, the permittee shall replace any vegetation as necessary.
 - Upon completion of the required 3-year monitoring period the project area is to be incorporated into the City of Knoxville's maintenance schedule, and the responsibility of the City of Knoxville. All documentation regarding this agreement implementation and schedule must be submitted to the division prior to responsibility changing, or by the end of the required 3-year monitoring period, or no later than June 30, 2013.
 - All monitoring shall be documented, include photo-documentation, and submitted in report-form to the division's Natural Resources Section, located in the L&C Annex, 7th Floor, 401 Church Street, Nashville, Tennessee 37243.
 - All monitoring shall be conducted annually and reports submitted annually, and the first report shall be due on October 31st after the project is completed, or no later than October 31, 2010.
2. **NRS 08.208, Station 19+67.18, replacement of existing bridge structure along Fairmont Boulevard at North Broadway (SR-33), First Creek, Lat: 36.00297°, Long: -83.92612°:** The authorized alterations include activities associated with the replacement of the existing bridge structure with a precast concrete box-beam bridge structure.
- a. Work on the replacement bridge, involving any excavation of the normal flow channel, shall be separated from flowing water and performed during low flow conditions.
 - b. No new piers are to be used in the replacement of the existing structure.
3. **NRS 08.208, Station 27+56.86, construction of new 60-ft. bridge structure along Emoriland Boulevard, First Creek, Lat: 36.00416°, Long: -83.92638°:** The authorized alterations include activities associated with the construction of the proposed 60-ft. precast concrete box-beam bridge structure.
- a. Construction of the Emoriland Boulevard bridge structure shall be accomplished totally in the dry, and the work shall be phased as follows:
 - i. Starting south of Emoriland Boulevard, this section of the high-flow bench shall be constructed in the dry, while keeping a section of the existing bank in place at the downstream end to serve as a natural drainage barrier.
 - ii. Construct the bridge structure and the next portion of the high-flow bench.

- iii. Construct the remaining section of high-flow bench north of Emoriland Boulevard in the dry, keep a section of the existing bank in place at the north end of the project to serve as a natural barrier.
 - iv. Remove the natural barrier on the downstream and upstream portions of the high-flow bench after permanent stabilization is completed.
- 4. Slurry water shall be pumped from the work areas at the bridge structures through a sock filter and either:
 - a. Into a filter bag
 - OR
 - b. Sprayed evenly into an equivalent sediment basin
- 5. At bridge structures, the installation of filter bags should be at the downstream portion of the area excavated.
- 6. A Total Maximum Daily Load (TMDL) for Siltation and Habitat Alteration, and Fecal Coliform exists for the Ft. Loudon Lake watershed (HUC 06010201080). This TMDL can be viewed in pdf format at <http://www.tennessee.gov/environment/wpc/tmdl>.
- 7. No grading, excavation, cutting, filling, or other earthwork shall be started before erosion prevention and sediment control (EPSC) measures are in place, in accordance with the accepted EPSC plan.
- 8. Within two (2) calendar days after excavation, exposed earth shall be seeded, mulched, and an erosion control blanket shall be constructed.
- 9. In areas along the existing stream bank where excavation is required, a temporary berm shall be established and maintained to serve as a drainage barrier. The berm shall be approximately 3 feet higher than the low flow channel to prevent water from leaving the work area.
- 10. After seeding, mulching and installation of EPSCs in each 300-ft. section, the temporary berm shall be removed. Immediately after the berm is removed, permanent EPSC measures shall be extended to the undisturbed existing channel bank.
- 11. Before proceeding upstream to the next 300-ft. section, a temporary berm shall be constructed transversely to the flow at the upstream end of the completed section to protect against siltation due to upstream construction.
- 12. In the event water is about to overtop the temporary berm, one or both of the following methods shall be used to treat turbid runoff
 - a. Pump the water through a sock filter and spray it uniformly over a downstream section that has been permanently stabilized.

- b. Pump the water through a sock filter and spray it uniformly over an upstream undisturbed, vegetated section of the project.
13. The treatment of the pumped water, referenced in item 10 above, shall be monitored to ensure that no turbid water enters waters of the state.
14. No culvert or bridge construction shall be started before applicable EPSC measures are in place, in accordance with the accepted EPSC plan.
15. Soil material must be prevented from entering waters of the state. EPSC measures to protect water quality must be maintained throughout the construction period. Appropriate EPSC measures must be installed along the base of all fills and cuts, on the downhill side of stockpiled soil, and along stream banks in cleared areas to prevent sediment migration into streams in accordance with TDOT standards. They must be installed on the contours, entrenched and staked, and extend the width of the area to be cleared.
16. The placement of in-stream EPSC measures is prohibited.
17. Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed (i.e. clearing and grubbing initiated) more than 10 calendar days prior to grading or earth moving activities unless adequate temporary cover is established.
18. All areas of temporary impact shall be stabilized once activities have been completed, or activities have ceased for 15 days or more.
19. Sod shall be placed at locations shown on the plans to prevent damage to adjacent facilities and property due to erosion on all newly graded cut and fill slopes as work progresses.
20. All excavation and fill activities shall be kept to a minimum and shall be separated from flowing waters, except in instances involving ONLY the placement of a culvert and clean rock.
21. Clearing, grubbing, and other disturbances to riparian vegetation shall be limited to the minimum necessary for slope construction and equipment operations. Unnecessary vegetation removal is prohibited. Additionally, vegetation shall not be allowed to enter stream channels.
22. Streambeds shall not be used as transportation routes for construction equipment. Temporary stream crossings shall be limited to one point in the construction area and EPSC measures shall be utilized where stream banks are disturbed. Stream crossings should be constructed of clean rock and stream flow should be conveyed in appropriately sized pipe. Crossings shall be constructed so that stream flow is not obstructed.

Following construction, all materials used for temporary crossings shall be removed and any disturbed stream banks shall be stabilized and restored.

23. Wetlands outside of the proposed area of impact shall not be used as storage or staging areas for equipment.
24. Borrow and waste disposal areas shall be located in non-wetland areas and above the 100-year, FEMA floodplain. Borrow and waste disposal areas shall not affect any waters of the state, unless these areas are specifically covered by an ARAP, 404, or NPDES permit, obtained solely by the contractor.
25. All culverts shall be constructed and installed in such a manner as to not impede the movement of aquatic life and flow of water.
26. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the state. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the state, including groundwater, should a spill occur.

GENERAL CONDITIONS:

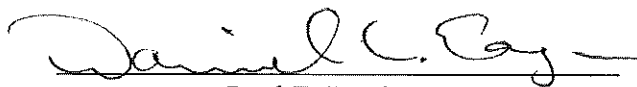
1. It is the responsibility of the applicant to convey all terms and conditions of this permit to all contractors. A copy of this permit, approved plans and any other documentation pertinent to the activities authorized by this permit shall be maintained on site at all times during periods of construction activity.
2. Work shall not commence until the applicant has received the federal §404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. The applicant is responsible for obtaining these permits.
3. The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of application NRS08.208 and the limitations, requirements and conditions set forth herein.
4. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in Rule 1200-4-3-.03 of the *Rules of the Tennessee Department of Environment and Conservation*. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of waters of the state for any of the uses designated by Rule 1200-4-4. These uses include fish and aquatic life (including trout streams and naturally reproducing trout streams), livestock watering and wildlife, recreation, irrigation, industrial water supply, domestic water supply, and navigation.

5. Impacts to waters of the state other than those specifically addressed in the plans and this permit are prohibited. All streams, springs and wetlands shall be fully protected prior, during and after construction until the area is stabilized. Any questions, problems or concerns that arise regarding any stream, spring or wetland either before or during construction, shall be addressed to the Division of Water Pollution Control's Knoxville Environmental Field Office (865-594-6035), or the permit coordinator in the division's Natural Resources Section (615-532-0645).
6. Adverse impact to formally listed state or federal threatened or endangered species or their critical habitat is prohibited.
7. This permit does not authorize adverse impacts to cultural, historical or archeological features or sites.

This permit does not preclude requirements of other federal, state or local laws. This permit also serves as a Tennessee Aquatic Resource Alteration Permit (ARAP) pursuant to the Tennessee Water Quality Control Act of 1977 (T.C.A. §69-3-101 et seq.).

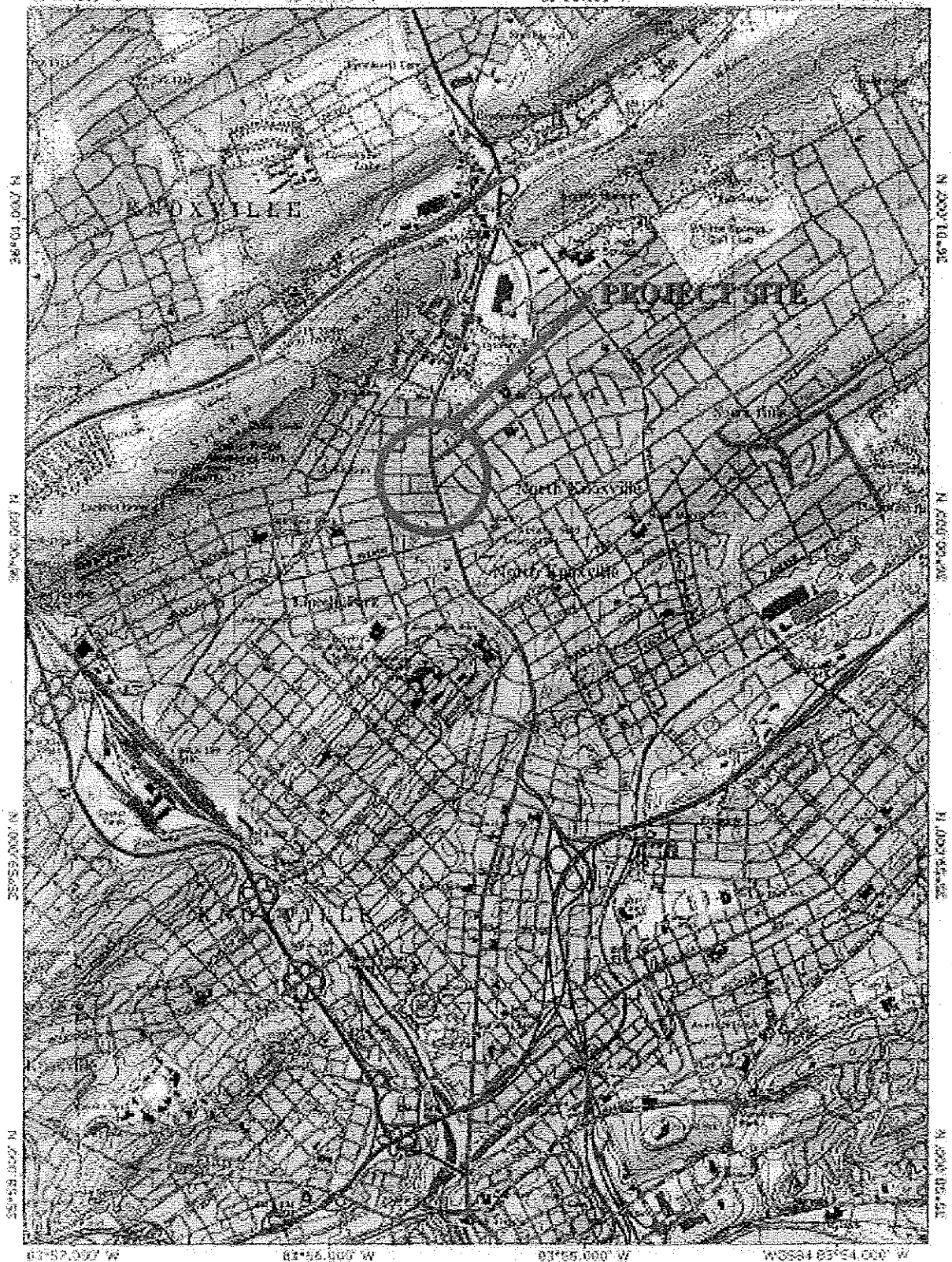
The State of Tennessee may modify, suspend or revoke this permit or seek modification or revocation should the state determine that the activity results in more than an insignificant violation of applicable water quality standards or violation of the act. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

An appeal of this action may be made to the Water Quality Control Board. In order to appeal, a petition requesting a hearing before the Board must be filed within THIRTY (30) DAYS after receipt of the permit. In such petition, each contention should be stated in numbered paragraphs that describe how the proposed activity would be lawful and the action of the state is inappropriate. The petition must be prepared on 8½" x 11" paper, addressed to the Water Quality Control Board and filed in duplicate at the following address: Paul E. Davis, Director, Division of Water Pollution Control, 6th Floor L & C Annex, 401 Church Street, Nashville, Tennessee 37243-1534. Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq. Questions concerning this certification should be addressed to Chip Hannah at 615-532-0713.



Paul E. Davis, P.E.
Director, Division of Water Pollution Control

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3. The following information is being furnished to you for your information:



Photo Location Map

